

modifications as are suited to the particular use contemplated.

CM What is claimed is:

1. A device for [reading an image] sensing a light comprising:
a semiconductor layer formed on a substrate, said semiconductor layer comprising [an image] a light sensor region and a semiconductor switch region adjacent to and operatively connected with said [image] light sensor region,
wherein said semiconductor layer has a [semi-amorphous] structure comprising a mixture of amorphous and crystalline structures, in which a Raman spectrum of the semiconductor film exhibits a peak deviated from that which stands for a single crystal of the semiconductor.

2. The device of claim 1 wherein said semiconductor layer comprises hydrogen doped silicon.

3. The device of claim 1 wherein said semiconductor switch region comprises a thin film transistor of which active region is formed of said semiconductor layer.

4. The device of claim 1 wherein said [image] light sensor region comprises at least two semiconductor regions having different electrical properties and forming a junction.

5. A device for [reading an image] sensing a light produced by a process comprising the steps of:

depositing a semiconductor material on a substrate;
forming a photoelectric conversion semiconductor device on said substrate comprising a p-type impurity semiconductor region, an intrinsic semiconductor region, and an n-type impurity semiconductor region, a semiconductor region of said photoelectric conversion semiconductor device being made of said semiconductor material; and

forming a thin film transistor on said substrate which constitutes an electric circuit required to [read an image] sense a light, a semiconductor region of said thin film transistor being made of said semiconductor material;

wherein said semiconductor regions are arranged in order with said p-type impurity semiconductor region adjacent said intrinsic semiconductor region and said intrinsic semiconductor region adjacent said n-type impurity semiconductor region in said photoelectric conversion semiconductor device, said order being in a direction perpendicular to that in which [an image] a light to be [read] sensed is incident thereon.

6. The device of claim 4 wherein said two semiconductor regions of the [image] light sensor region are laterally arranged on said substrate.

7. The device of claim 5 wherein said photoelectric conversion semiconductor device further comprises an amorphous semiconductor film provided on a side of said intrinsic semiconductor region on which said [image] light is incident through said amorphous semiconductor film.

8. A device for [reading an image] sensing a light comprising:
a semiconductor layer formed on a substrate, said semiconductor layer comprising [an image] a light sensor region and a semiconductor switch region adjacent to and operatively connected with said [image] light sensor region, [.] wherein said semiconductor layer has at least one of an electron mobility 15-100 cm²/V-sec and a hole mobility 10-100 cm²/V-sec.

9. A device for [reading an image] sensing a light comprising:
a semiconductor layer formed on a substrate, said semiconductor layer comprising [an image] a light sensor region and a semiconductor switch region adjacent to and operatively connected with said [image] light sensor region, [.] wherein said semiconductor layer has a [semi-amorphous] structure in which a Raman spectrum of the semiconductor film exhibits a peak deviated from that which stands for a single crystal of the semiconductor, and said semiconductor switch region comprises complementary p-channel and n-channel thin film transistors.

10. The device of claim 9 wherein said semiconductor film comprises hydrogen doped silicon.

11. The device of claim 9 wherein said [image] light sensor region comprises at least two semiconductor regions having different electrical properties and forming a junction.

12. The device of claim 11 wherein said two semiconductor regions in said [image] light sensor region are arranged in a lateral direction on said substrate.

13. The device of claim 9 wherein said semiconductor layer has at least one of an electron mobility in a range from 15 to 100 cm²/V-sec and a hole mobility in a range from 10 to 100 cm²/V-sec.

14. The device of claim 1 wherein said semiconductor layer has at least one of an electron mobility in a range from 15 to 100 cm²/V-sec and a hole mobility in a range from 10 to 100 cm²/V-sec.

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